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This study was conducted to determine if the centralized patient education concept for chronic diabetic patients is viably applicable to Walter Reed Army Medical Center. The study was conducted using questionaires and interviews with practitioners and patients. The surveys showed considerable support for the concept from both the practitioners and patients. The author recommended establishment of the service with a full time education coordinator.

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CENTRALIZED OUTPATIENT EDUCATION CENTER FOR PATIENTS WITH DIABETES AT WALTER REED ARMY MEDICAL CENTER

A Graduate Research Project
Submitted to the Faculty of
Baylor University
in Partial Fulfillment of the
Requirements for the Degree
of
Master of Health Care Administration

by

Captain Paul B. Mouritsen, MSC

May 16, 1984

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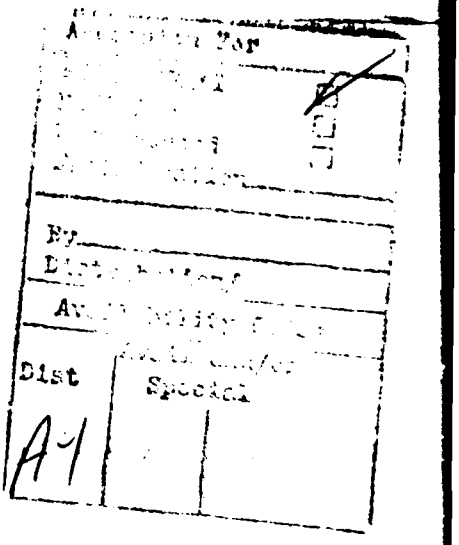
Lastly, I would like to thank Ms. Darlene King for her assistance in typing this study.



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I. INTRODUCTION

Conditions Which Prompted The Study

In the medical treatment of chronic diseases, physicians routinely make recommendations to their patients; however, patient compliance with prescribed regimens is less than satisfactory in many cases. One study indicates that 25-50 percent of all patients routinely fail to take prescribed medications.[1] Another study estimates that 25-50 percent of patients may make errors in self-administration of prescribed medications, oftentimes creating a serious threat to the patients' health.[2] There is tremendous cost involved in the treatment of chronic diseases. More than $9.7 billion were spent in 1979 for the treatment of diabetes mellitus alone. A 1979 study in Maine concluded that 16.5 percent of the admissions for diabetes control are caused by lack of knowledge of self-management skills and that 19.9 percent are readmissions within the year for the same or similar problems.[3]

One of the major reasons for patient noncompliance is the patient's inability to communicate effectively with the physician and other health care providers. The prescribed regimen is usually given in professional terminology which the patient is unlikely to fully comprehend.[4] The physician is not often inclined to spend time educating the patient. The physician assumes the nurse, the pharmacist, dietitian, and other medical personnel will fill the void by providing the patient with information concerning the disease and its treatment.

The most important elements in the treatment of chronic medical conditions are the patient's awareness and knowledge of the disease and the patient's willingness to participate in an appropriate self-care program. Thus, patient education involves helping patients to acquire the knowledge, the skills, and the behavior needed to be responsible for compliance with the prescribed treatment in its entirety. The savings to society are especially significant. For example, the cost of instructing a patient to take a particular medication with food or milk is far less than the cost of treating a duodenal ulcer. With up to a 50 percent noncompliance rate with prescribed regimens, it is apparent that there is a breakdown in the patient education process.

Generally, chronic medical conditions are treated on an outpatient basis, with hospitalization occurring only when the condition exceeds the patient's ability to manage it with self-care. For patients seen routinely in an ambulatory care environment, patient teaching is often fragmented, disorganized, and low in priority. As the Maine study indicates, a significant percentage of readmissions for diabetes control alone is directly related to the lack of adequate outpatient education. The inadequacy, the fragmentation, and the nondocumentation of outpatient education are of increasing concern to hospital quality assurance and risk management committees.[5]

The development of patient education centers for specific as well as multiple diseases on both an inpatient and an outpatient basis has come about since 1976.[6] The patient Bill of Rights, adopted by the American Hospital Association in 1973, states that "failure to insure that

the patient is adequately informed about his care places both professionals and hospitals in danger of liability."[7] The National Health Planning and Resources Development Act of 1974 lists health education as one of its top priorities.[8] Despite these proclamations of past years, it is apparent that most hospitals are in various stages of institutional development regarding patient education serivces.[9] However, it is also clear that patient education is desired and required by the patient to insure an adequate level of quality health care. For patients treated on an outpatient basis, outpatient education is likewise desired and required.

Statement of Research

To determine if the centralized patient education concept for chronic diabetic patients is viably applicable to Walter Reed Army Medical Center (WRAMC).

Objectives

There were several objectives involved with this research. The first was to determine patient and staff acceptance of a centralized outpatient education program for diabetic patients. The second objective was to identify the appropriate components of a hospital-based outpatient education program for chronic diabetic patients. The third was to assess current Army Medical Department programs and practices which should be incorporated into a centralized outpatient diabetic education center. The fourth objective was to identify current health care providers to participate in a centralized outpatient diabetic education program.

Finally, the research should identify the appropriate organizational level of implementation of an outpatient education program for diabetic patients.

Criteria

The first criteria of this research was that a recommendation for implementation of anticipated study outcomes was contingent on a majority of patients and staff who answer the survey being in favor. The second criteria was that the Chief, Department of Medicine, would be empowered to implement an outpatient education center if the concept was shown to be viably applicable.

Assumptions

For the purpose of this study, two assumptions were made. The first assumption was that Walter Reed Army Medical Center desires to improve patient understanding and knowledge of medical conditions and compliance with the prescribed treatment. A second assumption was that a reallocation of existing resources to establish an outpatient education center for diabetic patients would be effected if the concept were adopted.

Limitations

The study was constrained by several limitations. First, six CONUS medical centers were surveyed as well as four small MEDDACS ($\leq$ 100 beds); four medium MEDDACS ($>$ 100 $\leq$ 150 beds); and four large MEDDACS ($>$ 150 beds). All Army medical centers and MEDDACS treat diabetic patients. It was recognized that this provides a non-randomized sample of the population but was acceptable to the researcher because it

represents almost half of all CONUS Army hospitals and was feasible within the time constraints for conducting the research. Each facility also had an administrative resident on site who agreed to monitor the survey. A second limitation was that establishment of an outpatient education center could be accomplished without significant changes in current staffing levels. A third limitation was that in order to assess the need for the program from the patient's perspective, 100 outpatients were surveyed. This was a block sample and it was recognized that it represented a non-randomized sample of the patient population at WRAMC. It was deemed to be adequate for purposes of this study by the researcher and by LTC Timothy M. Boehm, Chief, Clinical Investigation Service and Assistant Chief, Endocrinology Service. Diabetic patients at WRAMC come from all over the world and many are not accessible for survey purposes given the time constraints of the research. This sampling methodology allowed for manual interpretation of the data. The study was tailored to the needs and problems of WRAMC although it is envisioned that the system will be easily adaptable to any Army hospital.

Literature Review

The review of literature to date indicates a great deal of attention is being focused upon patient education, both from the provider and from the patient's viewpoint. Attempts are made in the literature to estimate the effectiveness of patient education and treatment strategies.[10] The socio-economic conditions of the times mandate continual evaluation of patient education programs with the goal of improving effectiveness and efficiency in the health care arena. This is especially

true in the military health care setting since public monies are involved. Due to the impact which patient education has upon patient compliance with medication and treatment instructions, it is essential to provide the most complete educational experience possible for the patients.[11]

Table 1

Summary of Levels of Personal Responsibility

Levels of Personal Responsibility	Characteristics
Level 1:	
Having diabetes is a disaster	No responsibility. Hopelessness, helplessness, powerlessness, and despair. "It's no use trying."
Level 2:	
Having diabetes is a burden	Little responsibility. Anger, complaining, denial, blaming, and depersonalizing. If it weren't for diabetes I'd be ok."
Level 3:	
Having diabetes is a problem	Partial responsibility. "I know it's up to me, but circumstances are holding me back."
Level 4:	
Having diabetes is a challenge	Full verbal responsibility. "I know it's up to me, I'm going to do it."
Level 5:	
Having diabetes is an opportunity	Total responsibility. "I'm going to do it."

The Maine study, as well as others, showed that an effective education program can play a prominent role in reducing the need for hospitalization for the acute complications of diabetes.[12] This education process must take into account that patients are at varying levels of acceptance and understanding of the disease process. Table 1 is a summary levels of personal responsibility at which the diabetic patient may find himself.[13] Part of the education process is to assess the patient's level and direct the education process accordingly.

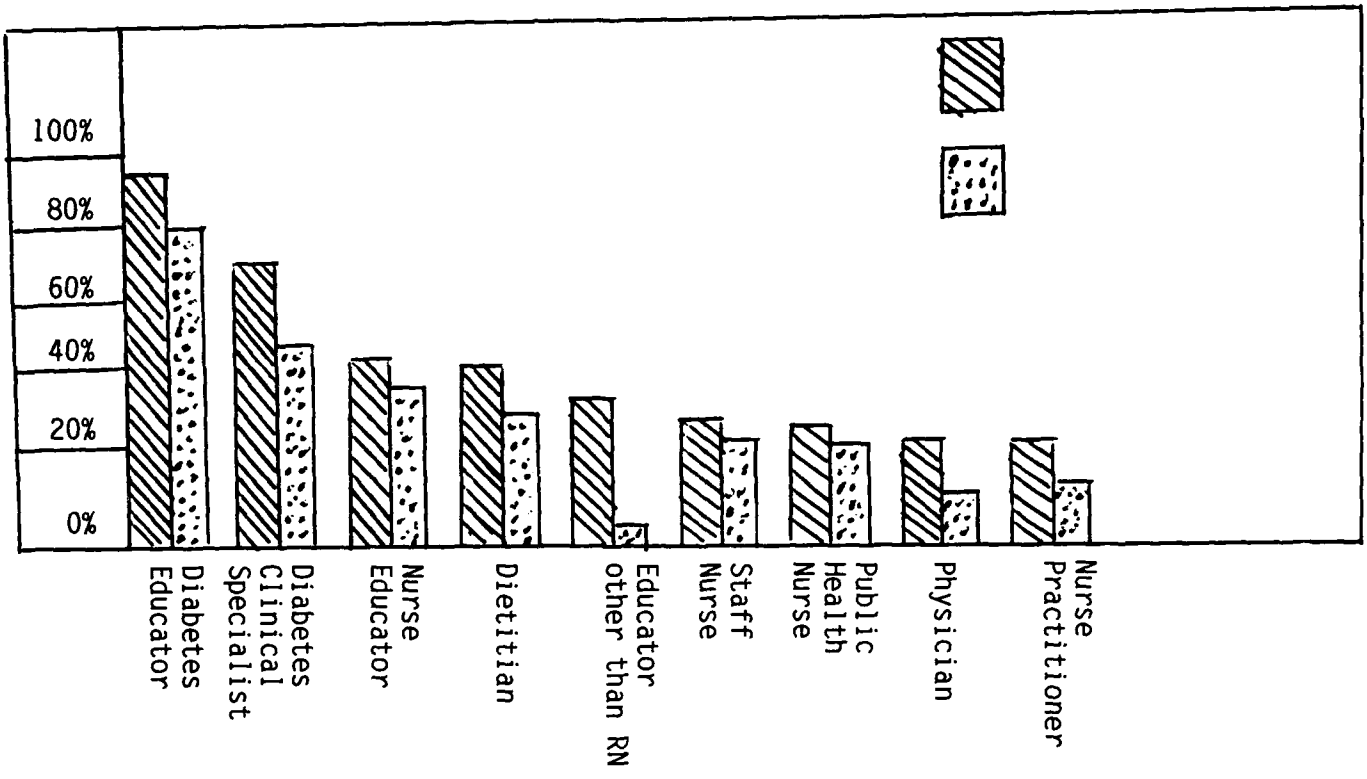
Diabetes educators are not a cohesive identifiable group. Dietitians are the most frequently reported member of the education process ranking above physicians, nurse educator, diabetes educator and nurse practitioner. Table 2 shows a profile of professionals in diabetes education programs.[14]

Table 2

Profiles of Professionals in Diabetic Education Programs

% of respondent education programs with this health professional:	Atlanta	New York	Colorado	Ohio
Dietitian	96	84	69	68
Physician	71	75	49	33
Nurse Educator	65	67	40	63
Social Worker	50	65	19	16
Podiatrist	23	41	5	4
Diabetes Educator	64	-	24	-
Nurse Clinician	78	22	39	-
Nurse Practitioner	20	-	13	8
Psychologist	16	-	7	2

Figure 1 Percentage of workweek spent in total diabetes activities and in diabetes education only, by job title, 1979



Another significant consideration is the amount of time spent in educating diabetic patients. For example, despite the fact that dietitians were most frequently reported as being involved in diabetes education, Figure 1 shows that they spend less than 40 percent of their work week with diabetic patients and only about 30 percent of the work week participating in an education process with patients. This is based on the results of three 1979 surveys in Georgia, Colorado, and Ohio.[15]

The education process most often involves patients on an inpatient basis. A New York State survey found that only 40 percent of the instructions given by dietitians and specialized nurses was in an outpatient setting. Staff nurses provided very little outpatient instruction, whereas, nurse practitioners gave much more. Ninety percent of the New York hospitals surveyed offered inpatient instruction, however, less than 30 percent offered outpatient classroom instruction.[16] There is no standardized job description or job title for diabetes educators and no standardized way of providing the education experience. Figure 1 referred to the various practitioners that are involved in education. The format of the education process varies from hospital to hospital.

The New York State survey as well as 1979 surveys in Ohio and Colorado indicated that 80 percent of the teaching time was spent in individual instruction. This is consistent with the results of 1973 American Hospital Association (AHA) survey which indicated that all hospitals that offered education programs offered individual instruction. The three 1979 surveys indicated that almost 50 percent of the hospitals used a team approach whereas the 1975 AHA study showed only nine percent of the hospitals used a team approach to diabetes education.[17] The common perception is that all the diabetes patient care and education services that can be performed on an outpatient basis should be, thereby lowering costs because of decreased hospital bed use. A recent study indicates that as many as one third of the patients with diabetes are unnecessarily hospitalized for two to seven days for educational purposes alone.[18] Most of the teaching is delegated by the physicians to nursing and/or dietary personnel. The literature deals mostly with inpatient education, outpatient

education is not offered on a formal organized basis in most hospitals.[19] However, even inpatient education programs vary widely from hospital to hospital. The Ohio study showed 34 percent had a formal coordinator, 46 percent had an informal coordinator and 20 percent had no one coordinating diabetes education. Thirty-three percent of the formal coordinators and 36 percent of the informal coordinators spent none of their time teaching the diabetic patient directly.[20]

A survey of providers in 1980 pointed out that only eight percent of the respondents with outpatient education programs were receiving reimbursement under Blue Cross/Blue Shield plans, however, only 28 percent of the 391 hospitals that responded to the survey acknowledged having an outpatient education program.[21] The bibliography points out that outpatient education is a highly contemporary issue and that the potential of a well organized education center has yet to be fully recognized and exploited.

Research Methodology

Collection of Data

The collection of data was comprised of four separate activities:

First, all applicable Department of the Army and Health Services Command regulations and directives which pertain to patient education were reviewed. Next, a survey was administered to selected staff members of selected Health Services Command medical facilities to determine their views on the establishment of such a program. (See Appendix A). Selected staff members consisted of Chiefs, Department of Medicine,

Chiefs, Endocrinology Service; Outpatient Dietitians; Nurse Practitioners in Department of Medicine; Pharmacists and Podiatrists. As indicated above 20 Army medical facilities were surveyed. The survey was coordinated with LTC Timothy M. Boehm, Chief, Clinical Investigation Service and with MAJ Wolf Rinke, Ph.D., Chief, Education and Research Division, Nutrition Care Directorate.

The education programs in effect at civilian hospitals and other institutions were reviewed to determine what components of such programs were applicable to a WRAMC program. Components of civilian programs must be consistent with Department of the Army and Health Services Command regulations and staffing guides. Lastly, 100 outpatients were surveyed to assess the need for the program. (See Appendix B). A non-randomized block sample was used. The patients were not stratified as to age, sex, length of illness or time under treatment.

Recording of Data

Responses from the survey were compiled as percentages and incorporated into the study where appropriate. Interviews with education coordinators from nonmilitary diabetes treatment facilities were evaluated and included into the study.

Evaluation of the Data

In evaluating the data several steps were taken:

First, the data from surveys of Health Services Command personnel were evaluated to determine the acceptance of the concept of an outpatient education center for diabetic patients.

The data from the surveys of Health Services Command personnel were also evaluated to determine the appropriate components for an outpatient education program.

The next step was to evaluate the data from 100 outpatients to ascertain the degree of acceptance of an outpatient education center for diabetic patients. The responses are explained in terms of percentages (for example, 64 percent of the dietitians responded...). Conclusions drawn are supported by the data.

The analysis is descriptive in nature; due to the sampling process inferential methods were not used.

FOOTNOTES

[1]Kenneth W. Witte and Kenneth F.Bober, "Developing a Patient Education Program in the Community Pharmacy," American Pharmacy N522 (October 1982): 28.

[2]Barry Blackwell, "Medical Intelligence: Drug Therapy and Patient Compliance," New England Journal of Medicine 289 (2 August 1973): 249.

[3]MMWR [Morbidity and Mortality Weekly Report] 31 (18 June 1983): 307.

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[6]Robert M. Anderson, Robert W. Genther, and Maria Alogna, "Diabetes Patient Education: "From Philosophy to Delivery," The Diabetes Educator 8 (Spring 1982): 34, Richard A. Guthrie and Joseph L. Kyner, "Diabetes Education in Kansas," Journal of the Kansas Medical Society, June 1981, p. 289; and Camille C. Klimecki, "A Multiphasic Patient Education Program," Quality Review Bulletin 7 (May 1981): 14.

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[9]Barbara K. Redman, "Patient Education in Hospitals: Development Issues," The Journal of Nursing Administration 11 (September 1981): 29.

[10]Paul J. Davis, Ailene R. VanSon, William Windahl, et. al., "Diabetes Effectiveness, Estimating Effectiveness of Patient Education and Treatment Strategics," New York State Journal of Medicine, Vol. 82, number 9, August 1982, p. 1335.

[11]Witte and Bober, op cit.

[12]Report of The National Commission on Diabetes to The Congress of The United States, (DHEW Publication No. NIH 76-1018), Washington, D.C., U.S. Government Printing Office: 231.

[13]Anderson, Genther and Algna, op cit.

[14]Nancy V. Ezzard, Larry C. Deeb, Maria Alogna and Jeannie Gettinger, "Profiles of Diabetes Education in 1979; Results of Three Surveys," The Diabetes Educator, Vol. 6, number 2, Summer 1980, p. 12.

[15]Ibid, p. 14.

[16]Ibid, p. 13.

[17]Ibid, p. 15.

[18]American Hospital Association, "Reimbursement Forum Proceedings," American Diabetes Association Testimony on Patient Education, October 25, 1979, p. 5.

[19]A. L. Graber, B. G. Christman, Maria Alogna, et. al., "Evaluation of Diabetes Patient Education Programs," Diabetes 1977, 26: 63.

[20]Mary J. Essig and Patricia L. Thielen, "A Study of Diabetes Educators in Ohio Hospital," Diabetes Educator, Vol. 8, number 2, Summer 1982, -. 34.

[21]Margaret G. Lorner and Trixi Nordberg, "Diabetes Education: Report on Financing and Reimbursement," Diabetes Educator, Vol. 7, number 1, Spring 1981, p. 25.

II. DISCUSSION

General Overview

The outpatient education process within Walter Reed Army Medical Center is decentralized and dependent upon the initiative of the individual concerned. A weekly diabetic clinic is held in the Endocrinology Clinic. This clinic involves assessment and treatment by physicians, dietitians, and a nurse practitioner. The nurse practitioner is from the general medical clinic and is not always available. The dietitian is from the outpatient nutrition clinic and is more likely to be available to assist the physicians in the diabetes clinic. Most of the education process takes place in a traditional mode, i.e., it is decentralized to the individual physician, nurse or other practitioner who interacts with the patient during the treatment regimen prescribed by the attending physician. This independence results in a variety of formats for outpatient education programs whose development and utilization have not benefitted from the experiences, to include mistakes of others. In the development and implementation of outpatient education programs the efficient and economic use of resources has not been an integral part of the decision process. This also includes consideration of the patient's time as a resource. No one individual is responsible for program review (content) or resource utilization (format).

In the development of a valid, relevant data base, information was gathered from several sources. The professional staff consisting of physicians, nurse practitioners, dietitians, and pharmacists of several Health Service Command facilities were surveyed for their professional

opinions as to the appropriateness of an outpatient education center for diabetic patients as well as their views on components of a centralized outpatient education center. In addition, 100 diabetic outpatients were surveyed to assess the perceived need for an outpatient diabetic education center. Several outpatient education programs at civilian hospitals and regional diabetes centers were reviewed to determine which components, if any, of such programs were applicable to a WRAMC program. The responses from the surveys were compiled as percentages and are incorporated into this paper as appropriate.

Analysis of Objective 1

The professional staff response concerning the appropriateness of an outpatient education center for diabetics was positive. A total of 48 responses were received from the professional staff. This included 15 dietitians, 18 nurse practitioners, nine pharmacists, and 15 physicians. The physicians included 11 who were Chiefs, Department of Medicine at their respective hospital and five who were the Chief of the Endocrinology Service at their hospital. At least one response was received from each MEDDAC or MEDCEN surveyed. Two of the medical centers had six responses returned. The criteria for selection of the physicians to be surveyed was that they were chief of a service or department that treated diabetic patients. The Chiefs of Endocrinology were all from medical centers while the Chiefs, Department of Medicine were from both the MEDDACs and MEDCENs. The criteria for selection of the nurses to be surveyed was that they were involved in outpatient education of diabetic patients. The nurses that responded were all nurse practitioners. The

criteria for selection of the dietitians to be surveyed as the same as the nurses; involvement in outpatient education for diabetics.

As reflected in a recapitulation of the staffs' responses (Appendix A) the staffs' perceptions vary. One hundred percent of the staff members responding felt that outpatient education is an essential aspect of the total treatment of the diabetic patient. However, only 33 percent of the practitioners indicated that more than 50 percent of their time with patients was spent educating the patient concerning diabetes and its treatment. Twenty-six percent spent less than ten percent of their time educating, 22 percent spent 10-30 percent of their time educating and only 19 percent spent 30-50 percent of their time educating the patient concerning diabetes. Not surprisingly, the physicians and pharmacists were the practitioners who spent less than ten percent of their time educating while nurse practitioners and dietitians were more likely to spend a higher percentage of their time educating patients. For example, 47 percent of the dietitians felt they spent more than 50 percent of their time educating patients while 56 percent of the nurse practitioners felt they were in the same category.

The perception of the patients (Appendix B) shows some variance from that of the professional staff. Ninety-six percent of the patients who participated in the survey responded that they felt they had a need for continued education concerning their condition and treatment. The four percent who didn't feel they had a need included three retired nurses and one retired physician. As stated earlier, 74 percent of the staff indicated they spent more than ten percent of their time educating patients while only 38 percent of the patients surveyed thought that the practitioner

spent more than ten percent of his time educating the patient. Thirty-three percent of the practitioners felt they spent more than 50 percent of their time educating while not a single patient felt their practitioner spent that much time educating them.

Each of the practitioners which participated in the survey indicated there is a formal referral method from the physician to one or more of the other practitioners. Ninety-four percent indicated a formal referral method to involve a dietitian, 89 percent involved the nurse practitioner. Only seven percent involved the pharmacist, 18 percent a podiatrist and 18 percent a psychologist. The referral method differed almost evenly as to whether there was formal feedback to the referring practitioner. Forty-eight percent indicated they received feedback and 52 percent said they received no feedback. Nine percent felt the patient was seen on the referral the same day, 17 percent felt the patient was seen within three days, 19 percent felt the patient was seen within seven days. Fifty-five percent of the practitioners acknowledged that the patients were not seen within seven days of the referral. This situation centered around scheduring conflicts with the other practitioners.

All of the patients surveyed said they visited a practitioner at least once every three months. Forty-six percent saw a dietitian, 52 percent a nurse practitioner, nine percent a pharmacist, eight percent a psychologist and two percent a podiatrist. As to the timeliness of the visit, 14 percent of the patients said they were seen the same day as the referral. Sixteen percent felt they were seen within three days, 15 percent within seven days while 55 percent of the patients said they were seen after seven days. When queried as to whether they felt a centralized outpatient

education service that would give them immediate access to the health care practitioners would be advantageous or not, 98 percent of the patients and 90 percent of the practitioners responded affirmatively.

Comments concerning such a service were wide ranging. Some patients were extremely enthusiastic and wondered how soon it could be implemented. Others were more pragmatic and although recognizing it as an excellent innovation, felt that it may not come about quite so quickly as to be in place for their next visit. The two patients who saw no advantage to such a center were two of the four patients who felt no need for continued education concerning their condition and treatment. Ninety-seven percent of the patients believed that more education would be helpful to them and their families. The three patients who didn't feel it would be helpful were the three retired nurses who were of the opinion that their professional expertise put them in a category of not needing additional instruction.

The ten percent of the practitioners who did not consider a centralized outpatient education center an advantage had varying reasons. Three of the practitioners (nurse practitioners) didn't want any other professional involved. Others didn't feel the center could provide any better educational experience than they could provide individually. Two of the dietitians indicated experience with conflicting instructions given by the physician or nurse practitioner.

The staff members who considered an education center an advantage had many reasons for doing so. Some recognized that a multidisciplinary approach could draw on the expertise of each discipline and preclude each practitioner from having to become expert in several areas. Others felt

that one practitioner could not take adequate time to see all the patients that needed education. A third reason was that some of the practitioners recognized that some patients felt more comfortable with more than one practitioner. Some of the practitioners also recognized the need to get expert instruction in one of the other disciplines and recognized that delaying this instruction would not be appropriate. Finally, some of the staff recognized the validity of the patients' concern that their time and their efforts to make repeated trips to the hospital could be a burden on them and their families.

Analysis of Objective 2

The second objective was to identify the appropriate components of a hospital-based outpatient education center for chronic diabetic patients. These components were identified through interviews with staff members. An education center concept requires many components to be functional. Three components are required: staff, equipment, and physical space sufficient to accomplish the mission. Interviews with staff members at WRAMC as well as education coordinators for programs at non-military facilities were conducted to determine ancillary staffing and space requirements for an outpatient education center. The results of these interviews reflected a considerable amount of personal preference as far as equipment and physical layout are concerned. A list of recommended audio visual equipment is at Appendix C. A complete list of all the preferences mentioned would not be practical. A composite of the physical requirements concerning space allocation and layout is at Appendix D. This is not intended to be all inclusive as far as specifications are concerned; rather it is intended as a guideline and a starting point for developing specifications

for the physical plant. The interviews with the civilian education coordinators produced a consensus that flexibility within the physical layout was the most important aspect; i.e., an ability to change from a group mode to an individual mode quickly and efficiently. The layout described in the appendix would handle group classes of up to ten persons and the same number of patients being instructed either individually or participating in self-education with materials provided by the education coordinator. The training materials used by the various education centers and education coordinators were individualized. There was no uniformity and it seemed that the training materials used depended on the financial committment to the program. Some relied on printed material only, others had video tapes, slides and other material produced in-house.

Analysis of Objective 3

Assessing current Army Medical Department programs and practices that deal with patient education in general and outpatient education for diabetics specifically proved to be revealing. There are very few directives or written policies that cover the subject. The Joint Commission on Accreditation of Hospitals Manual addresses patient education as part of the nursing standards.[1] Department of the Army Pamphlet 40-5 also addresses patient education as part of the nursing action plan.[2] There are no directives, no Army regulations, and no written local regulations dealing with outpatient education specifically.

Interviews with various staff members indicate a variety of perceptions concerning current practices. Some practitioners fel. that nursing education ran outpatient education for diabetics; some felt that the

outpatient dietitian was responsible for the outpatient diabetic education.[3] Ninety-four percent of the hospitals that participated in the survey process indicated a formal referral method from the physician to the dietitian, 89 percent of the hospitals had practitioners that indicated a formal referral method to the nurse practitioner and the podiatrist, 66 percent to the psychologist and 22 percent to the pharmacist. These practices are consistent with the civilian practices involving the same practitioners with the exception of nurse practitioners which have a much more active role in the military health care system.[4, 5] Despite the high percentages of the practitioners that have indicated a formal referral method exists, less than half (48 percent) of the referring practitioners indicated that there was a feedback mechanism in place to allow them to see the results of the professional counseling. Civilian programs were much more likely to involve a formal feedback mechanism so the referring physician knows what is going on as far as the patient education process is concerned. Civilian and military practitioners were adament that a feedback process was very important.[6, 7] Appendix E is a form used by Cedars-Sinai Medical Center at the University of California at Los Angeles, which goes to the patient, the physician, educator, and the medical record. A form providing the same information would be essential to close the loop as far as patient education is concerned. Currently, very little is documented in the medical record. The practitioners interviewed indicated they understood the need for documentation and feedback, however, time and dictation requirements usually put the documenting of patient education at the very bottom of the priority list.

Analysis of Objective 4

To identify health care providers to participate in a centralized outpatient education program both military and civilian practitioners were asked which practitioners were most indicated. Several of the military gave more than one response so the total exceeds the number of respondents. The 100 patients were also queried as to who should be most involved in the education process. The practitioner most frequently mentioned by the military practitioners as the best suited to provide outpatient education was the nurse practitioner. The second specialty most frequently mentioned was the dietitian. The nurse practitioner was mentioned 48 times, the dietitian was mentioned 20 times. Physicians were mentioned 11 times with the nurse, podiatrist, pharmacist, and psychologist mentioned by seven or fewer practitioners. The survey of professionals in four states as described in Table 2 indicates that dietitians were most frequently involved in outpatient education. Physicians, nurse educators, and diabetes educators the others most often involved. Nurse practitioners who were interviewed preferred a diabetes educator or a dietitian.[8, 9] The general consensus was that a non-physician should do the educating. The practitioners interviewed had a decided preference for an education coordinator that would do much of the teaching and all of the administration.

Appendix F is a list of tasks and responsibilities for a health education coordinator. This is a compendium of the tasks identified by both civilian and military practitioners. It is not intended to be all inclusive, but rather serve as a basis of discussion when a formal job description is done. The coordinator could be a nurse, dietitian or a professional educator. One person could do centrally what several are

currently doing on a non-centralized basis. Hiring a full-time education coordinator would involve one additional full-time position at GS-7 to 9 level. The education coordinator would be the person responsible for coordinating all aspects of the patient education process. This process would take place in the education center. The education coordinator would return the results of the education process to the physician as well as coordinate the educational processes directed by the physician. Feedback to the physician would be accurate and timely and would provide the physician with more data to support a definitive direction as far as the education process would be concerned. A proposed patient flow chart is at Appendix D.

Analysis of Objective 5

The most significant factor when determining the appropriate organizational level for an outpatient education program is that of the emphasis placed on the program by those who allocate resources. The physicians interviewed felt it should be under the Department of Nursing. The nurses and dietitians felt physician involvement would be necessary to ensure resources would be made available. The most important factor is not where the program is organizationally, but, rather its degree of acceptance by the practitioners and patients. Civilian programs come under various departments or services: Medicine, Endocrinology, Nursing, outpatient clinics and Food Service. There is no consistent organizational entity that conducts outpatient education for diabetic patients. The military rank structure indicates that physician involvement is necessary to ensure resource availability and to have proper supervision of the program. Organizationally, the outpatient education center would be best placed so

that outpatient dietitians, nurse practitioners and endocrinologists could provide the professional supervision. The education center must be placed high enough in the organization to ensure resources are made available yet low enough to ensure that there aren't more supervisors than patients. The physical layout must also lend itself to ready adaptation to accommodate an education center. Organizationally, the education coordinator should come under the Chief, Endocrinology Service. This is consistent with the opinions expressed by the practitioners.[11, 12] This provides physician supervision and control over the program but would provide personnel as resources that would take the workload off the physician.

FOOTNOTES

[1]"Accreditation Manual for Hospitals, 1984," American Hospital Association, Chicago, Illinois, p. 114.

[2]United States Army, Department of the Army Pamphlet, Army Medical Department Standards of Nursing Practice, November 1981, p. 6-1.

[3]Interview with LTC Timothy Boehme, MC, Chief, Clinical Investigation Service, Walter Reed Army Medical Center, Washington, D.C., March 13, 1984.

[4]Interview with CPT Joyce Patrick, Nurse Practitioner, General Medicine Clinic, Department of Medicine, Walter Reed Army Medical Center, Washington, D.C., March 14, 1984.

[5]Interview with Richard S. Smirt, M.D., Duke University Medical Center, Durham, North Carolina, March 1, 1984.

[6]Interview with Robert Anderson, M.D., Director of Training and Transportation, Diabetes Research and Training Center, University of Virginia, Charlottsville, Virginia, February 28, 1984.

[7]Interview with LTC Timothy Boehm, March 13, 1984.

[8]Interview with Robert Anderson, M.D., February 28, 1984.

[9]Interview with Philip Bashook, Director of Training and Transportation, Diabetes Research and Training Center, University of Chicago, Michael Reese Hospital and Center, Chicago, Illinois, March 7, 1984.

[10]Interview with Franz Matschinsky, Diabetes - Endocrinology Center, University of Pennsylvania School of Medicine, Philadelphia, PA., April 3, 1984.

[11]Interview with COL Theodocia Meier, Chief, Nutrition Care Directorate, Walter Reed Army Medical Center, Washington, D.C., February 15, 1984.

[12]Interview with LTC Timothy Boehm, March 13, 1984.

III. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The purpose of this study was to determine if the concept of a centralized outpatient education center for patients with diabetes was viably applicable to Walter Reed Army Medical Center. The study was conducted utilizing questionnaires and interviews with practitioners and patients. Fifty-seven health care professionals from 18 different medical centers and community hospitals responded as well as 100 outpatients who were seen in the diabetes or nutrition outpatient clinic at WRAMC. The results of the surveys were presented as descriptive percentages. No inferential statistics were used. The surveys showed considerable support for the concept from both the practitioners and patients. Some differences exist as to who should do the educating but there was certainly a consensus that it should be performed. There were no particular surprises in the results from the surveys other than the fact that civilian practitioners do not utilize nurse practitioners in the education process to the extent the military does.

Recommendations

Based upon the results of the study and the experience gained in conducting this research several recommendations were identified.

It was recommended that an outpatient education service for diabetic patients be established under the Chief, Endocrinology Service with a

full-time education coordinator serving at the hub of the system. Goals and policies should be formulated. These should include the duties of the education coordinator, standards of performance, and standard operating procedures for patient flow to include emergency situations. Volunteers to assist in the education center should be recruited. All applicable education materials should be procurred. (A partial list is offered at Appendix H.) The program should be evaluated after a two year period to determine its effectiveness.

APPENDIX A

Medical Activity/Center Staff Survey

MEDICAL ACTIVITY/CENTER STAFF SURVEY

58 Responses/18 Hospitals

Please answer the following questions by placing a check (✔) in the appropriate blank.

1. Do you believe that outpatient education for diabetic patients is an essential aspect of the total treatment of the patient?

   58 - Yes
   Ø - No

2. What percentage of your time with the "average" diabetic patient is spent on educating the patient concerning his/her disease and its treatment?

   15 - Less than 10 percent
   13 - 10-30 percent
   11 - 30-50 percent
   19 - More than 50 percent

3. Do you have a formal referral method to insure the diabetic patient obtains professional counseling from the: (18 hospitals surveyed)

Pharmacist?	4 - Yes - 22%	___ - No
Dietitian?	17 - Yes - 94%	___ - No
Podiatrist?	16 - Yes - 89%	___ - No
Nurse practitioner?	16 - Yes - 89%	___ - No
Psychologist?	12 - Yes - 67%	___ - No
Other?	Ø - Yes	___ - No

4. Is there a formal feedback mechanism in effect that gives you the results of the professional counseling referred to in No. 3 above?

   28 - Yes - 48%
   30 - No - 52%

5. If not, do you feel such a system would enhance or contribute to your treatment of the diabetic patient?

   30 - Yes - 100%
   Ø - No

6. Do your patients have ready access to the professional counseling referred to in No. 3 above?

 5 - Same day as referred - 9%
10 - Within three days - 17%
11 - Within seven days - 19%
32 - More than seven days - 32%

7. Would you consider a centralized outpatient education center an advantage or a disadvantage with respect to the education you feel your patients require?

51 - Advantage - 90%
 7 - Disadvantage - 10%

Why Practitioners were of the opinion that this concept would make the educational process more readily available. Availability of the process was the most cited advantage.

8. Whom do you believe is the professional most suited to provide outpatient education to the diabetic patient?

 5 - Pharmacist
20 - Dietitian
 7 - Nurse
48 - Nurse practitioner
 6 - Podiatrist
11 - Physician
 5 - Psychologist
 0 - Other

Why The practitioners took a realistic position that the persons currently most involved were more likely to stay involved.

9. I am

11 - Chief, Department of Medicine
 5 - Chief, Endocrinology Service
 9 - Pharmacist
18 - Nurse practitioner
15 - Dietitian

APPENDIX B

Patient Survey

PATIENT SURVEY

100 Outpatients

Please answer the following questions by placing a check (✔) in the appropriate blank.

1. Do you feel you have a need for continued education concerning your condition and its treatment?

   96 - Yes
   4 - No

2. What percentage of your time with the physician is spent learning about your condition and/or your treatment?

   62 - Less than 10 percent
   26 - 10-30 percent
   12 - 30-50 percent
   Ø - More than 50 percent

3. Do you routinely (every three months or less) see one of the following concerning your treatment? (Some patients see more than one practitioner.)

Pharmacist (not just picking up prescriptions but actual instruction from the pharmacists)	9 - Yes	___ - No
Dietitian	46 - Yes	___ - No
Podiatrist	2 - Yes	___ - No
Nurse practitioner	52 - Yes	___ - No
Nurse	Ø - Yes	___ - No
Psychologist	8 - Yes	___ - No

4. If your doctor refers you to one of the health professionals listed in No. 3 above, how long do you have to wait before you can be seen?

   14 - Same day as referred
   16 - Within three days
   15 - Within seven days
   55 - More than seven days

5. Do you feel that a centralized outpatient education service that would give you immediate access to the health care professionals listed in No. 3 above would be advantageous or disadvantageous?

   98 - Advantageous
   2 - Disadvantageous

Why Availability of the educational process was the most intriguing factor mentioned by the patients.

6. Do you feel that more education concerning your condition and its treatment would be helpful to you and your family?

97 - Yes
3 - No

7. Whom do you feel should conduct additional education?

7 - Pharmacist
Ø - Nurse
38 - Nurse practitioner
1 - Podiatrist
28 - Physician
26 - Dietitian

APPENDIX C

Audio Visual Equipment List

AUDIO VISUAL EQUIPMENT LIST

Patient Education Center

WRAMC, Wash., D.C.

ITEM*	COST	NUMBER	TOTAL COST
3/4" video cassette player/rec.	$995.00	2	$1990.00
TV monitor	400.00	2	800.00
Singer 8900 - 1 Auto Vance III Film strip projector (front & rear screen)	249.50	1	249.50
Singer 8888 - 2 Auto Vance II Film strip projector	189.50	4	758.00
Singer Caramite Model 3320 front & rear screen slide projector	429.50	1	429.50
16 mm film projector	900.00	1	900.00
35 mm slide projector with accessories	464.55	1	464.55
Projection screen	50.00	2	100.00
		TOTAL	$5691.55

* Walter Reed Audio Visual has all this equipment on hand

APPENDIX D

Physical Space and Equipment (Non AV) Requirements

Physical Facilities

a. General Requirements

(1) Size. A small-group facility would be designed to accommodate six to ten patients. The minimum room size would be 300 square feet, preferably 450 square feet (15' x 30'). The size will be dependent on space allocations, type of installation and patient flow.

(2) Wiring. Minimun requirements of a small sized learning center would be two double outlets on each wall. The outlets should be within easy access to each study carrel and either end of the room.

(3) Artificial-Light Control. The light should be adequately diffused and shadow free in all parts of the learning center. Thirty (30) footcandles is recommended as the minimum light level. Light control with dimmer switch should be in the immediate area of the health educator's station.

(4) Acoustical Condition. The acoustical conditioning should be controlled by wall coverings (acoustical tile or plaster) and rugs on the floors plus the use of headphones for each patient. Cutting down on the reverberation and noise level improves room "climate" and reduces tensions.

(5) Air Control. Heating, cooling, and ventilating systems should cause neither drafts nor noise. The temperature range as per governmental energy control standards, should be from 68 degrees F. in the winter to 78 degrees F. in the summer and the humidity between 45 and 55 percent with adequate air circulation. It should also be thermostatically controllable and monitored by the health educator.

(6) Color. Colors may vary considerably, depending upon the room's exposure. Pastel colors are suggested to help with lighting and light control.

(7) Reflective Surfaces. For effective use of most projected material, illumination in the room should not exceed 1/10 foot candle.

(8) Rest Room Facilities. Should be provided for both men and women in the immediate area.

b. Furniture and Arrangement

(1) Primary Learning Center: (Room #1)

(a) Size - 15' x 30': large enough to accommodate eight patients comfortably. However, may seat ten patients.

(b) Furniture and Facilities.

1 one 54" circular table with four posture conforming chairs,

2 two sets of five wall mounted shelves,

3 one lectern,

4 two legal size five drawer file cabinets

5 eight study carrels with posture conforming chairs,

6 one metal cabinet for audio visual equipment,

7 one 18" x 35" x 60" metal, double door storage cabinet.

(2) Secondary Learning Center: (Room #2)

(a) Size - 6' x 12': was large enough to accommodate one patient comfortably. Also used for storage.

(b) Furniture and Facilities.

1 one study carrel,

2 two posture conforming chairs,

3 one metal cabinet for audio visual equipment,

4 one 2' x 5½' built in storage cabinet with stainless steel sink, and

5 two 25' x 31' wall hung metal cabinets.

(3) Carrels. To afford flexibility a "mix" of types of carrels is recommended, rather than a standardized type. The vertical dividers should not be over two feet above the table area. Study careels should be used for individualized instruction with a minimum of six and perferably ten patients per small sized learning center.

(4) Cloistering of Carrels. If feasible the carrels should be broken up visually so that they do not have a barnlike, regimented appearance. Carrels should be arranged to ease the traffic flow, since patients arrive and leave at different times.

(5) Social Interaction and Group Size. The interaction and size of the group is dependent upon the topic area. The optimum group size is between six to ten patients.

(6) Conference Table. At least one round conference table should be included in the furniture to provide opportunities for various forms of interaction and face-to-face learning activities. When patients are in the carrels the conference table may also serve as the health educator's station.

(7) Seating and Table Surfaces. Seats and table should be movable (designed for flexible grouping), quiet, comfortable, the right height with good posture support. Swivel chairs with casters are suggested.

(8) Learning Materials Storage. The learning center should include shelving both open and visible and hidden (cabinets) shelves to store booklets, 3/4" audiovisual cassettes, other audio visual equipment, etc.

c. Additional Facilities

(1) Health Educator's Office. Should include a desk, two chairs, and a minimum of two file cabinets. The number of file cabinets would be dependent on the patient case load. This office is essential for baseline collection.

(a) Health Educator's Office.

1 Size: 9" x 11"

2 Furniture and Facilities.

a one study carrel,

b two 18" x 28" legal size five drawer file cabinets,

c one 34" x 44" single pedestal desk,

d three posture conforming chairs,

e four rows of 12" x 48" wall hung shelves,

f one 24" x 37" built in storage cabinet with stainless steel sink,

g one 13" x 32" x 36" wall hung metal cabinet with sliding glass doors, and

h one TV monitor.

(2) Storage Area and Supply Room. Should be large enough to adequately store blank forms, patient charts, and additional (back-up) audio visual equipment, including two file cabinets.

(a) Size: 9" x 11".

(b) Two legal sized 5 drawer file cabinets.

(c) One 18" x 35" x 60" metal, double door storage cabinet.

d. Location: A Patient Education Center should be readily accessible to patients and have an adequate waiting area.

APPENDIX E

Sample Patient Education and Assessment Records

CONDENSED PATIENT LEARNING NEEDS ASSESSMENT TOOL

NAME: DATE:
Chart Number:

1. Can you tell me what you are being treated for?
   Probe if too general a response-- (1a) What would you say is the specific nature of your problem?

2. In general, how much do you feel you know about it?

   __ A lot __ In between __ Not very much

3. Are you taking any medications for your conditions?

   __ Yes __ No

4. What medicines are you taking? List:

5. How often do you take each one?

6. What specific treatments or procedures, such as exercise or diet, have you been told to carry out by your doctor (or appropriate other)?

7. What signs or symptoms would cause you to seek immediate help for your condition?

8. Of the following kinds of information which two do you think are most important for a person with your condition to know? (Record order of choice)

   __ When to seek help?
   __ What things am I not allowed to do?
   __ Will I get better?
   __ What is wrong with me?
   __ What is my treatment?

9. Do you feel you personnally have enough information about these topics?

   Choice 1: __ Yes __ No
   Choice 2: __ Yes __ No

10. In your opinion, how correctable is your condition?

    __ Totally correctable __ Partially correctable __ Not correctable

11. Is there anything more you would like to know about your condition? Even something little?

__ Yes __ No

If yes, what are the questions? _____

_____

_____

12. How many years of formal education have you completed?

EDUCATIONAL NEEDS ASSESSMENT FOR THE DIABETIC PATIENT

Patient Name_____ Age_____ Sex_____
Address_____ Age Diagnosed_____ Weight___
Duration of Diabetes____ Height___
Physician_____ Current medications and dosage schedule
Family history of diabetes:_____ RX_____

Allergies_____ OTC_____

Patients Questions	Pharmacist Comments
1. In your own words, tell me what diabetes means to you? What parts of your body are involved? Response:	I consider this patient's general knowledge of diabetes to be: __ good __ fair __ poor Recommendations:
2. Has your physician prescribed a special diet for you? Do you understand the importance of a special diet in controlling your diabetes? Response:	I consider this patient's knowledge of the role of dietary management in diabetic control to be: __ good __ fair __ poor Recommendations:
3. Has your physician stressed to you the importance of regular exercise and its role in diabetes? Response:	I consider this patient's knowledge of the role of regular exercise in diabetic control to be: __ good __ fair __ poor Recommendations:
4. For insulin users: What insulin(s) do you use and at what dosage? How often do you inject your insulin? How do you draw-up your insulin? Do you rotate your injection sites? Response:	I consider this patient's knowledge of self-insulin administration to be: __ good __ fair __ poor Recommendations:
5. For oral agent users: What oral hypoglycemic medicine do you use and at what dosage? How often do you take this medication? What time of day do you take this medication? Response:	I consider this patient's knowledge of oral hypoglycemic agent administration to be: __ good __ fair __ poor Recommendations:

6. Do you realize the importance of taking your diabetic medication as prescribed? If you miss a dose, what would you do?
Response:

I consider this patient's knowledge of drug regimen compliance to be:
__ good __ fair __ poor
Recommendations:

7. Do you routinely check your urine for sugar? How often? What product do you use? How do you use this product?
Response:

I consider this patient's knowledge of urine glucose monitoring procedures to be:
__ good __ fair __ poor
Recommendations:

8. Has your physician instructed you to routinely check your blood for sugar? How often? What product do you use and how do you perform the test?
Response:

I consider this patient's knowledge of blood glucose monitoring procedures to be:
__ good __ fair __ poor
Recommendations:

9. In your own words, tell me what would happen to you if your blood sugar level was too high. What situations might cause this to happen? What would you do if this happened to you?
Response:

I consider this patient's knowledge of a hyperglycemic reaction to be:
__ good __ fair __ poor
Recommendations:

10. In your own words, tell me what would happen to you if your blood sugar level was too low. What situations might cause this to happen? What would you do if this happened to you?
Response:

I consider this patient's knowledge of a hypoglycemic reaction to be:
__ good __ fair __ poor
Recommendations:

Interviewed by: _____ Date: _____

Recommendation summary:

DIABETIC TEACHING RECORD

Return Demonstration of Clinitest and Acetest by Patient or Significant Other

New Diabetic — Comments/Comprehension

1. Date____ Signature_____ _____
2. Date____ Signature_____ _____
3. Date____ Signature_____ _____

Known Diabetic

1. Date____ Signature_____ _____

Return Demonstration of Insulin Administration by Patient or Significant Other*

Nonapplicable:

New Diabetic — Comments/Comprehension

1. Date____ Signature_____ _____
2. Date____ Signature_____ _____
3. Date____ Signature_____ _____

Known Diabetic

1. Date____ Signature_____ _____

Taught to Patient or Significant Other*

1. Expresses understanding of the importance of skin and feet that are clean, dry, and lesion free. Expresses understanding of the importance of contacting the physician if a sore is noticed on the foot. Expresses the importance of regular eye examination.
   Date_____ Signature_____

2. Expresses an understanding of the symptoms of hypoglycemia and hyperglycemia.

Hypoglycemia	Hyperglycemia	
1. Muscle weakness	1. Increased thirst	4. Increased appetite
2. Diaphoresis	2. Dehydration	
3. Faintness	3. Increased urniation	5. Easy fatigue
4. Headache		
5. Double vision		
6. Confusion		

NOTE: Either condition can cause coma.
Date_____ Signature_____

3. Expresses the understanding that illness or a change in activity will affect diabetic management.
   Date_____ Signature_____

4. Diabetic information packet given to patient.
   Date_____ Signature_____

5. Expresses an understanding of _____ calorie diabetic diet.
   Date_____ Signature of Dietitian_____
   Comment:_____
   Comprehension: __ good __ fair __ poor

Comments:

_____

_____

_____

* Significant other: a relative or friend of the patient who will be responsible for care of the patient after discharge.

APPENDIX

CEDARS-SINAI MEDICAL CENTER

PATIENT I.D. HERE
14

PATIENT ASSESSMENT AND EDUCATION RECORD
DIABETES MELLITUS

☐ INPATIENT ☐ OUTPATIENT CLINIC APPT._____

INIT.	PRINTED NAME	SIGNATURE	TITLE

NOTE: Enter Code and Initials for Each Entry
I — INSTRUCTED RA — REQUIRES
C — COMPETENT ASSISTANCE

	ASSESSMENT	EDUCATION					COMMENTS (DATE AND INITIAL)
INITIAL							
DATE							

		YES	NO						
GENERAL	Patient can verbalize: 1. *Definition of diabetes mellitus and its effect on glucose*								
	2. Need for and method of control								
URINE TESTING	Patient can verbalize/demonstrate: 1. Rationale for urine testing/Interpretation of results								
	2. Correct urine testing procedure and record keeping								
	3. Type of urine test/Frequency of testing								
INSULIN	Patient can verbalize/demonstrate: 1. Action of insulin								
	2. Type and Medication Schedule								
	3. Correct technique for insulin preparation a. Single dose b. Multiple dose								
	4. Correct technique for insulin administration a. Rotation of sites								
ORALS	Patient can verbalize: 1. Action of oral medication								
	2. Name of Medication and schedule								
HYPOGLYCEMIA	Patient can verbalize 1. Definition and causes								
	2. *Symptoms/treatment/prevention/Medic-Alert*								
HYPERGLYCEMIA	Patient can verbalize 1. *Definition and causes*								
	2. Symptoms								
	3. Prevention and sick day rules								
	Patient can verbalize 1. Reasons for daily foot care								
	2. Do's and Don'ts of foot care								
	EXERCISE: Patient can verbalize: Effect on Diabetes and Blood Glucose control								
	Capillary blood glucose monitoring								
DIET	Patient can verbalize/demonstrate 1. Reason for maintaining diet								
	2. Proper meal times/spacing/H.S. snack								
	3. General meal planning/content								
	4. Use of diabetic exchange system in meal planning								
	5. Diet changes for sick day management								
	6. Diet changes for exercise								
	7. Diet changes for special occasions (i.e. eating out, alcohol, etc.)								
	8. Knowledge of other diet restrictions								

HT.	WT.
DIET	
MEALS/SNACKS	

APPENDIX F

Job Requirements For Education Center

HEALTH EDUCATION COORDINATOR

JOB DESCRIPTION

Administrative/Management Functions:

1. Learn the MEDDAC setting (political, social, economic and cultural factors internal and external to the setting).

2. Conduct and analyze needs assessment surveys.

3. Determine program philosophy statement and goals.

4. Develop policies, procedures, and standards for health education programs.

5. Develop short and long range goals.

6. Determine objectives and set priorities for health education programs and resources.

7. Identify internal and external resources available, i.e., people, funding, space, etc.

8. Plan budget requirements.

9. Develop, maintain, and document evaluation, revision, and follow-up procedures.

10. Solicit necessary feedback about programs and the center.

11. Maintain data base and write necessary reports to document program and center activities.

12. Work with various committees for program planning needs.

13. Maintain a network of communication and support within MEDDAC and with other HCFs.

14. Attend meetings and briefings related to health education and center operations.

15. Promote public relations with the Army community and publicity of Health Education Center activities.

Program Development Functions:

1. Utilize the Instructional Design System in program development.

2. Facilitate multi-disciplinary collaborations in the content development for programs.

3. Provide technical guidance and assistance in developing individual health education program objectives.

4. Conduct a "real world" search of existing health education materials and/or resources.

5. Assist and/or conduct evaluation of existing health education materials.

6. Design and/or provide technical direction in the preparation of health education materials.

7. Develop and provide direction in developing specific criterion measures for testing programs.

8. Design the instructional system to be utilized for each program.

9. Conduct and document formative evaluation for each program.

10. Conduct and document process evaluation for each program.

11. Design, collect, and document other data related to health education activities, when indicated.

12. Revise programs as necessary.

13. Initiate and conduct final staff evaluation of programs.

14. Conduct cost analysis studies of programs.

Health Teaching Functions:

1. Initiate client interview to assess needs and establish rapport.

2. Collect baseline data and other related data.

3. Determine areas of client learning deficiencies.

4. Develop plans of action.

5. Administer teaching plan.

6. Provide explanation and reinforcement as necessary.

7. Encourage compliance of treatment plans.

8. Provide feedback to original health care provider about client's learning progress - copy to medical record.

9. Collect necessary follow-up data.

10. Terminate learning sessions when appropriate.

Staff Development Functions:

1. Orient staff to the health education concept and the Health Education Center program.

2. Develop and conduct pertinent inservice education and continuing education programs related to the Instructional Systems Design and education methodology.

3. Consult with staff regarding problem solving, program planning and design, evaluation, and research.

4. Develop support from administration and other professional staff for health education functions.

5. Attend professional meetings as necessary, e.g., Quality Assurance, Head Nurse, C.H.E.P., Discharge Planning, etc.

6. Write a monthly staff development column related to health education for publication in the Inservice Education Bulletin.

Health Education Center Operation Functions:

1. Schedule clients for learning center appointments.

2. Prepare center environment for presentation of learning systems.

3. Maintain readiness of learning center, e.g., preparation of teaching materials.

4. Insure operation of AV equipment.

5. Coordinate maintenance of AV hardware and software.

6. Secure all areas of center.

7. Develop and update SOPs related to learning center operation.

8. Maintain client record files and center schedules.

9. Maintain AV hardware/software reservation schedule and AV hardware/software loan activities.

Evaluative Functions:

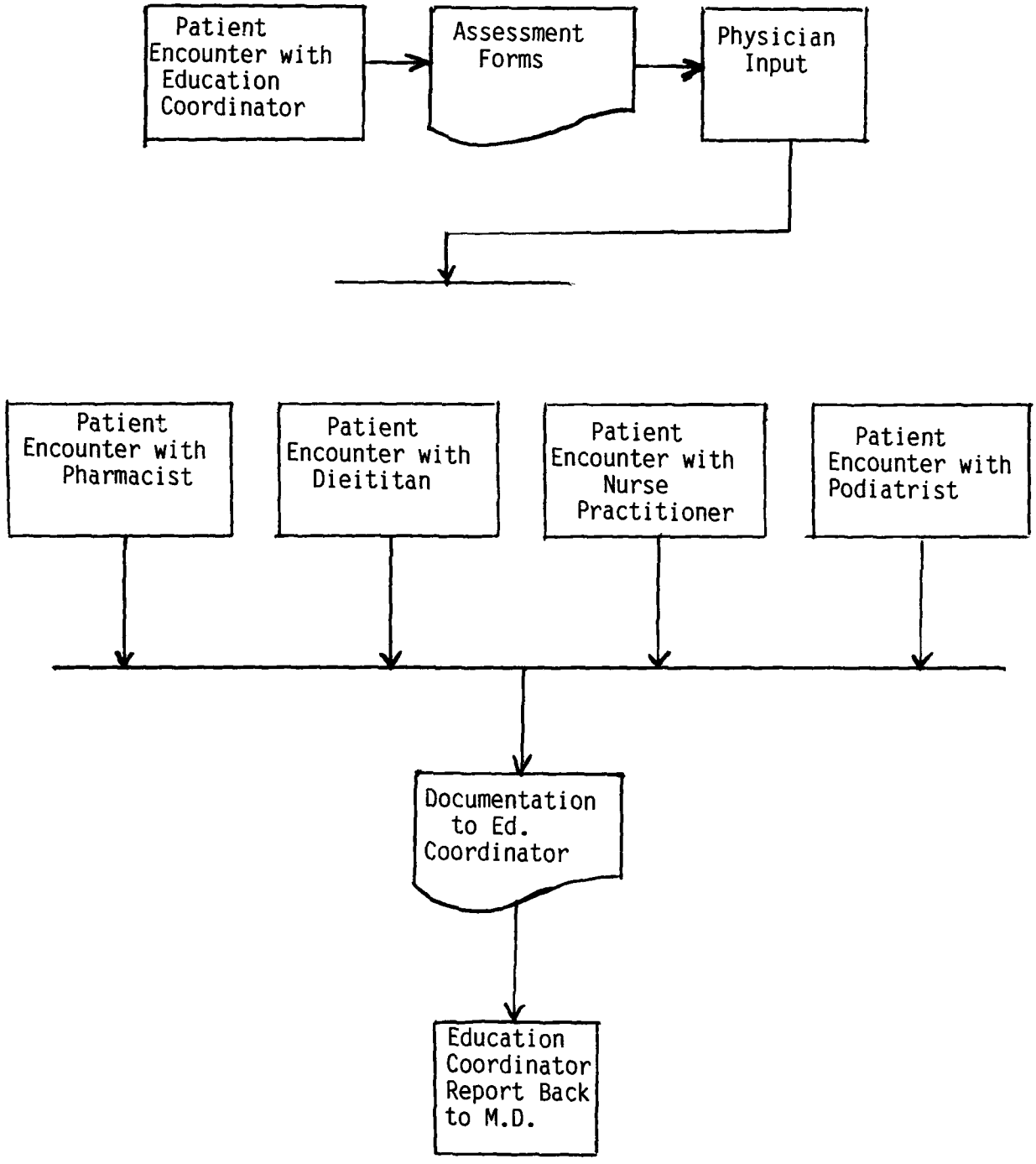
1. Examine the effect and impact of health education activities through appropriate methods of evaluation.

2. Provide assistance in the development of quality assurance and audit procedures and/or criteria as they apply to health education.

APPENDIX G

Proposed Patient Flow Chart

PROPOSED PATIENT FLOW CHART



APPENDIX H

List of Diabetic Education materials

LIST OF DIABETES EDUCATION MATERIALS

U.S. Department of Health and Human Services. Public Health Service. National Institutes of Health. National Diabetes Information Clearinghouse. Cookbooks for People with Diabetes: Selected Annotations. NIH Pub. No. 81-2177. Bethesda, Md.: Government Printing Office, May, 1981.

U.S. Department of Health and Human Services. Public Health Service. National Institutes of Health. National Diabetes Information Clearinghouse. Diabetes and Aging: Selected Annotations. NIH Pub. No. 81-2178. Washington, D.C.: Government Printing Office, November, 1980.

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U.S. Department of Health and Human Services. Public Health Service. National Institutes of Health. National Diabetes Information Clearinghouse. General Information about Diabetes: Selected Annotations. NIH Pub. No. 80-2157. Washington, D.C.: Government Printing Office, August, 1980.

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